



# Carbon Footprint & Energy Transition Portfolio Analysis

*Quick Reference Guide*





# CF & ET Portfolio Analysis

## Content (2/4)

### 1<sup>st</sup> page

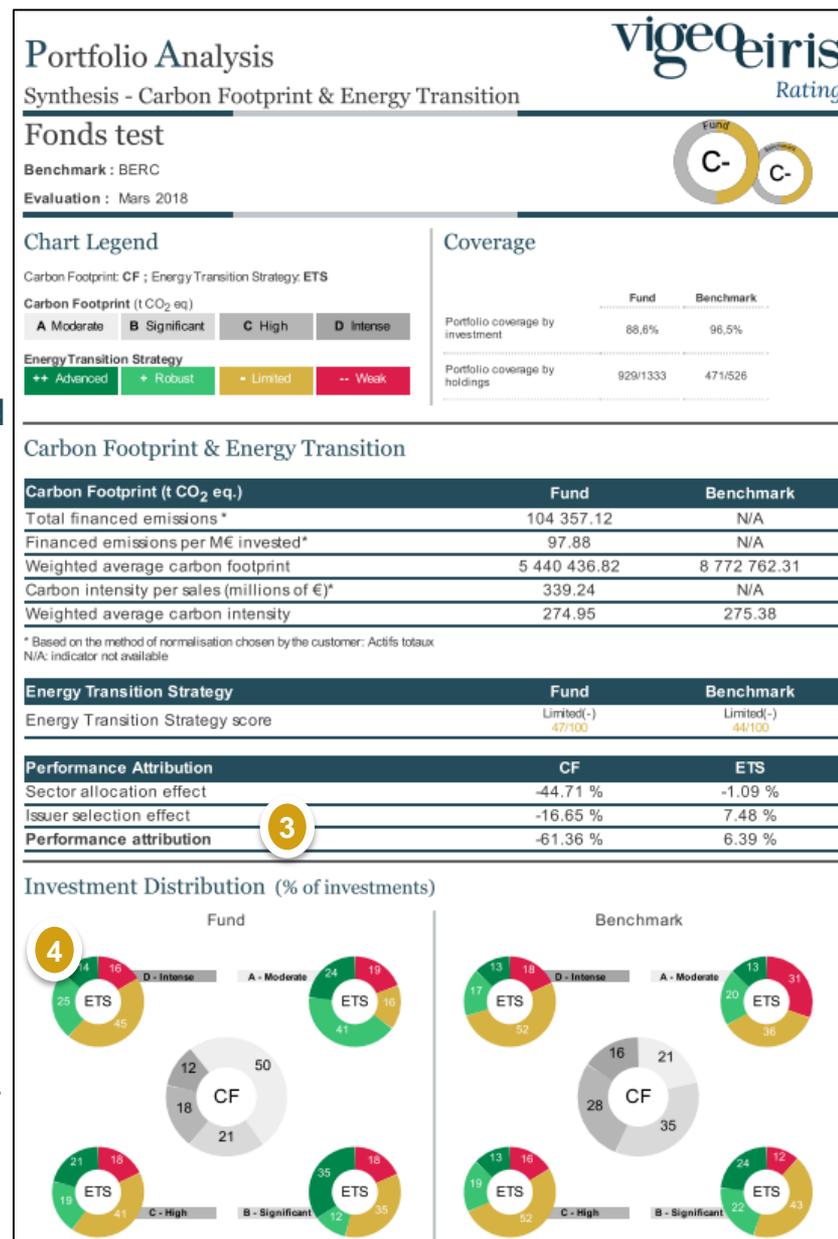
#### 3. Performance Attribution

- Comparison of CF & ET score of the Portfolio and the Benchmark
- Sector allocation effect
  - Measures the impact of the choices of overweighting/underweighting a sector in the portfolio with respect to the Benchmark
- Issuer selection effect
  - Measures the impact of choices made in the selection of companies in the portfolio with respect to the Benchmark
- Performance attribution
  - Sum of the two preceding effects
  - A negative figure for CF is a result of a lower CF for the Fund vs Benchmark (lower = better)
  - A negative figure for ETS is a result of a lower ETS score for the Fund vs Benchmark (higher = better)

N.B. A Benchmark must be selected for this section to be included.

#### 4. Investment distribution

- Distribution of the percentage of investments in Issuers based on Energy Transition scores and Carbon Footprint grades



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### 5. Geographic and Sector Distribution

- Breakdown of the percentage of investments of the Fund and Benchmark for each different level of ET score and CF grade.

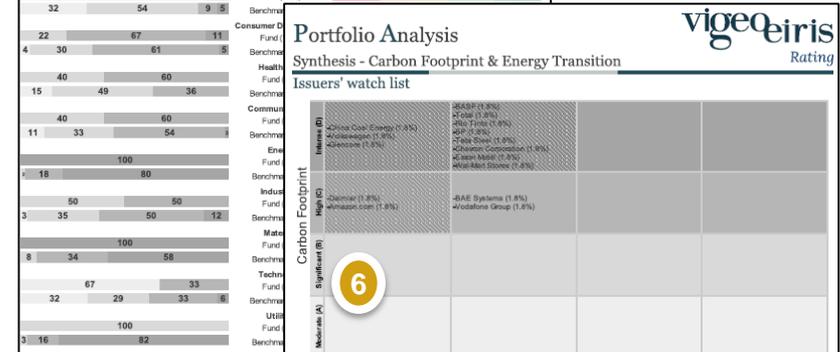
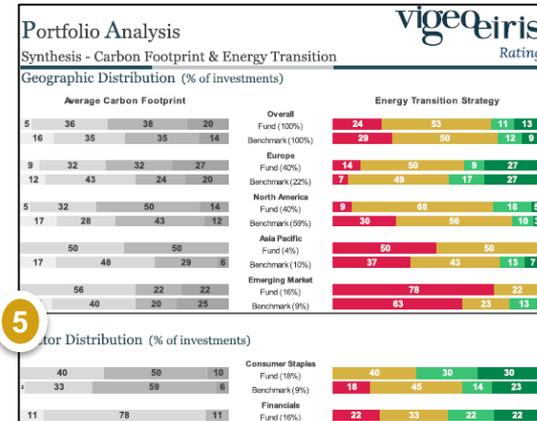
3<sup>rd</sup> page

### 6. Issuers' Watch List

- Display of the 10 largest holdings + 10 Issuers with which engagement could be a good option (grey hashed corner top left)

### 7. Qualitative Comments

- Issuers selected: Those with intense/high CF and a weak/limited ET score



**Focus on major CO<sub>2</sub> emitters of the funds**

**7**

**Daimler (1.7%)**  
Daimler displays a high carbon footprint (C) and a weak energy transition strategy (-) with a score of 23/100. Between 2008 and 2016, Daimler allegedly manipulated one million diesel vehicles to minimize their NOx emissions and colluded with other German carmakers on emissions equipment and price-fixing for over 20 years. Therefore, Vigeo Eiris no longer has assurance on the reliability of the information provided by the company regarding the impact of its production processes on the one hand, and its management of environmental impacts from the use and disposal of products on the second hand. Consequently, Daimler obtains a score of 0/100 on these two issues. On the contrary, the German automotive manufacturer displays an advanced performance on the development of car sharing solutions (60/100). Daimler is part of the "H2 mobility" initiative which works to implement a nationwide hydrogen infrastructure in Germany and also launched "car2go", a car sharing service. Daimler reports that the number of car2go users has increased from about 1 million of registered users in 2014 to 2 million in 2016.

**Volkswagen (1.7%)**  
Volkswagen (VW) displays an intense carbon footprint (D) and a weak energy transition strategy (-) with a score of 11/100. The Dieselgate scandal broke in September 2015, accusing VW to have deliberately deceived U.S. regulators about the NOx emissions of its vehicles. In March 2017, VW agreed to pay a fine of US \$3 billion in the US. To date, lawsuits are still on-going in several countries and, according to a report from the French fraud office, VW could face a fine of EUR 19 billion in France. Therefore, Vigeo Eiris no longer has assurance on the reliability of the information provided by the company regarding the impact of its production processes on the one hand, and its management of environmental impacts from the use and disposal of products on the second hand. Consequently, VW obtains a score of 0/100 on these two issues. With regard to the development of car sharing solutions, VW displays a limited performance (50/100). Only 12,530 users were registered to its car sharing solution in 2014 and there is no evidence that this service is implemented outside Germany.

## 8. Positive impacts factors

### Green Bonds

- Percentage of the portfolio investments in green bonds & green bonds complete with a 2nd party opinion (Fixed Income only)

### Green Goods & Services

- Percentage of investments within the portfolio in Issuers offering green solutions
- Revenue threshold set to 20%

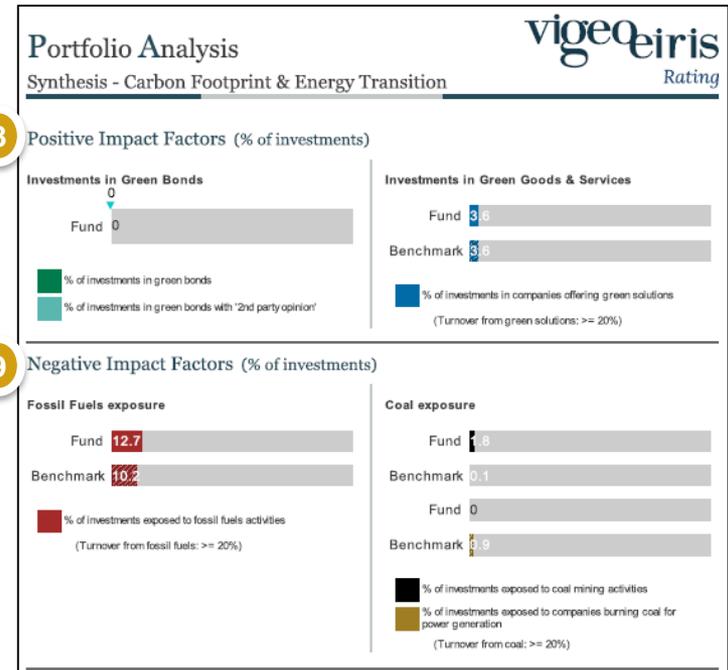
## 9. Negative impact factors

### Fossil Fuels Exposure

- Percentage of investments within the portfolio in Issuers whose turnover is, in part, derived from fossil fuels activities
- Revenues threshold set to 20%

### Coal exposure

- Percentage of investments within the portfolio in Issuers whose turnover is, in part, derived from coal mining activities or power generation from coal burning activities
- Revenues threshold set to 20%



## Carbon Indicator Definitions 1 of 5

Indicator	Definition	Advantages	Considerations	Use case			
				Impact	Risks	Contribution	Comparison?
<b>Total Financed Emissions (Total Carbon Emissions)</b>	<p>Represents the total emissions of the portfolio by attributing the carbon emissions of the Issuer to each investor based on their ownership.</p> <p><math>\sum(\text{M€ invested}/\text{market cap}) * \text{CF} = \text{t CO}_2\text{eq}</math></p> <p><i>Eg, An investor owns:</i></p> <ul style="list-style-type: none"> <li>- 10% of company A that emits 100t CO<sub>2</sub>e</li> <li>- 5% of company B that emits 200t CO<sub>2</sub>e</li> </ul> <p><i>The total carbon footprint would be 0,1*100 + 0,05*200 = 20t CO<sub>2</sub>e</i></p>	<ul style="list-style-type: none"> <li>- Understand what is the portfolio's total carbon footprint</li> <li>- Provide the closest measure to reality to represent the responsibility and contribution to climate change; allowing to report the impact on climate</li> <li>- Enables the setting of absolute reduction targets and facilitates, over time, the portfolio's contribution to reach national/international policy goals in the reduction of GHG emissions</li> <li>- Enables the understanding of sector and stock allocation effects on the total carbon footprint</li> <li>- Useful for communication, transparency and mitigation strategies</li> </ul>	<ul style="list-style-type: none"> <li>- Does not allow benchmarking and comparison with other portfolios since this indicator is sensitive to portfolio size</li> <li>- By itself, does not inform the reasons of a carbon footprint evolution over time</li> <li>- Sensitive to variability of market cap/enterprise value</li> </ul>	Yes	No	Partially	No

## Carbon Indicator Definitions 2 of 5

Indicator	Definition	Advantages	Considerations	Use case			
				Impact	Risks	Contribution	Comparison?
<b>Financed emissions per M£ invested</b>	<p>Represents the normalised emissions of a portfolio per million GBP invested. In other words, it shows the carbon footprint of each million of money invested.</p> $\sum(\text{M£ invested}/\text{market cap}) * \text{CF} / \text{Total portfolio investment} = \text{t CO2eq/M£}$ <p><i>Eg, Following the sample above, an investor has invested a total of 100 M in companies A and B:</i></p> <ul style="list-style-type: none"> <li>- 10% of company A that emits 100t CO2e / year</li> <li>- 5% of company B that emits 200t CO2e / year</li> </ul> <p><i>Its total financed emissions per M£ invested would be <math>(0,1 * 100 + 0,05 * 200) / 100 = 0,2\text{t CO2} / \text{M£}</math></i></p>	<ul style="list-style-type: none"> <li>- Allows for comparison with other portfolios/benchmark regardless of size</li> <li>- Displays the carbon intensity of your money</li> <li>- Enables the setting of relative reduction targets</li> </ul>	<ul style="list-style-type: none"> <li>- Sensitive to variability of market cap/enterprise value</li> </ul>	Yes	No	Partially	Yes

## Carbon Indicator Definitions 3 of 5

Indicator	Definition	Advantages	Considerations	Use case			
				Impact	Risks	Contribution	Comparison?
<b>Weighted average carbon footprint</b>	<p>This measure represents the absolute emissions of the average company financed by the investor.</p> <p>This metric is calculated using companies emissions and weighting them by their weight in the portfolio.</p> <p><math>\sum \text{weight in portfolio} * \text{CF} = \text{t CO}_2\text{e}</math></p> <p><i>Eg, a portfolio composed of:</i></p> <ul style="list-style-type: none"> <li>- 15% in company A, emitting 15 000 000t CO<sub>2</sub>e / year</li> <li>- 85% in company B, emitting 5 000 000 CO<sub>2</sub>e / year</li> </ul> <p><math>(0,15 * 15\ 000\ 000) + (0,85 * 5\ 000\ 000) = 6\ 500\ 000</math></p> <p><i>This shows that the investor finance on average companies emitting 6 500 000t CO<sub>2</sub>e / year</i></p>	<ul style="list-style-type: none"> <li>- Applicable to diversified portfolios across asset classes, including fixed income</li> <li>- Facilitates the measurement, from year to year, if the investor is exposed on average in companies more or less carbonised</li> <li>- Makes possible comparisons with other portfolios/benchmark</li> </ul>	<ul style="list-style-type: none"> <li>- Does not measure impact on climate or investor responsibility</li> <li>- Does not allow the measurement, over time, the portfolio's contribution to international policies relating to reducing global temperatures (Eg, two degrees scenario)</li> </ul>	No	Partially	No	Yes

## Carbon Indicator Definitions 4 of 5

Indicator	Definition	Advantages	Considerations	Use case			
				Impact	Risks	Contribution	Comparison?
<b>Carbon intensity per sales</b>	<p>This metric expresses the carbon efficiency of a given portfolio by measuring the volume of emissions per GBP of sales generated by the constituents of the portfolio over a year.</p> <p>Carbon efficiency is best measured using sector-specific production metrics (MWh of power generated, liters of beverage, tons of steel, etc). However, this does not allow to compare between sectors, hence in a portfolio context, the best measure of output is sales.</p> <p><math>\frac{\sum(\text{M}\text{€ invested}/\text{market cap}) * \text{CF}}{\sum(\text{M}\text{€ invested}/\text{market cap}) * \text{Revenue}} = \text{t CO}_2\text{eq}/\text{M}\text{€ revenue}</math></p> <p><i>Eg, for a portfolio containing:</i></p> <ul style="list-style-type: none"> <li>- 10% of company A that emits 100t CO<sub>2</sub>, sales 50M</li> <li>- 5% of company B that emits 200t CO<sub>2</sub>, sales 60M</li> </ul> <p><math>\frac{(0,1 * 100) + (0,05 * 200)}{(0,1 * 50) + (0,05 * 60)} = 2,5\text{t CO}_2 / \text{M}\text{€}</math></p>	<ul style="list-style-type: none"> <li>- Overall operating efficiency indicator at portfolio level</li> <li>- Measures the portfolio carbon efficiency by £ of sales of the portfolio constituents</li> <li>- Allows for comparison between years</li> <li>- Allows for comparison with other portfolios/benchmark</li> </ul>	<ul style="list-style-type: none"> <li>- Minimises the carbon footprint of issuers introducing pricing power bias</li> <li>- Masks developments in the carbon footprint of the Issuer and the portfolio due to sensitivity to inflation of goods and services</li> <li>- It may lead to artificially reducing the carbon footprint of companies and portfolios between years and vice versa</li> <li>- Alone, does not allow for the understanding of the reasons behind evolution in the carbon footprint</li> <li>- Does not allow the measurement, over time, the portfolio's contribution to international policies relating to reducing global temperatures (Eg, two degrees scenario)</li> </ul>	No	Partially	No	Yes

## Carbon Indicator Definitions 5 of 5

Indicator	Definition	Advantages	Considerations	Use case			
				Impact	Risks	Contribution	Comparison?
<b>Weighted average carbon intensity</b>	<p>This metric provides information on the portfolio's exposure to carbon intensive companies. It can be used as proxy for the exposure to carbon-related market and regulatory risks.</p> <p><math>\sum \text{weight in portfolio} * (\text{CF}/\text{revenue}) = \text{t CO2eq}/\text{M€ revenue}</math></p> <p>Eg, <i>portfolio composed by:</i></p> <ul style="list-style-type: none"> <li>- 15% in company A, emitting 100t CO2e, sales 50M</li> <li>- 85% in company B, emitting 200t CO2e, sales 60M</li> </ul> <p><math>(0,15*(100/50))+(0,85*(200/60)) = 3,1\text{t CO2e} / \text{M€}</math></p>	<ul style="list-style-type: none"> <li>- Applicable to diversified portfolios across asset classes, including fixed income</li> <li>- Measures a portfolio's exposure to carbon intensive companies which can serve as proxy for portfolio's exposure to carbon risks</li> <li>- It makes possible comparison with other portfolios/benchmarks</li> </ul>	<ul style="list-style-type: none"> <li>- Does not provide information about impact on climate / investor responsibility</li> <li>- Does not allow the measurement, over time, the portfolio's contribution to international policies relating to reducing global temperatures (Eg, two degrees scenario)</li> </ul>	No	Partially	No	Yes